

19

B.R. 1920B(4)

RESTRICTED

HANDBOOK FOR
NAVAL LANDING PARTIES

Volume II — Part 4

THE LIGHT MACHINE GUN

1951

This book is the property of His Majesty's Government and is for the use of persons in His Majesty's Service only. It must not be shown, or made available, to the Press or to any member of the public.

Digitized by:

SMALL ARMS OF THE WORLD
SMALLARMSOFTHEWORLD.COM

ORIGINAL PROPERTY OF
ROYAL ARMOURIES
 LEEDS

Attention is called to the penalties attaching to any infraction
of the Official Secrets Acts

HANDBOOK FOR
NAVAL LANDING PARTIES

Volume II — Part 4
THE LIGHT MACHINE GUN

CONDITIONS OF RELEASE

This information is disclosed only for official use by the recipient Government and such of its contractors, under seal of secrecy, as may be engaged on a defence project. Disclosure to any other Government or release to the Press or disclosure in any other way would be a breach of these conditions.

The information should be safeguarded under rules designed to give the same standard of security as that maintained by His Majesty's Government in the United Kingdom.

GUNNERY AND ANTI-AIRCRAFT WARFARE DIVISION
ADMIRALTY

CONTENTS

SECTION		<i>page</i>
1. CHARACTERISTICS OF THE BREN GUN	1
Particulars of the equipment	2
2. STRIPPING, CLEANING AND ACTION OF MECHANISM	3
Groups for stripping	3
Piston group	3
Barrel group	4
Butt group	5
Body group and bipod	6
Trigger group	6
Additional stripping	7
Magazine platform	7
Butt plate and return spring	7
Firing pin	8
Magazine catch and ejector	8
Cleaning kit	8
Barrel group	9
Body group	9
Piston group	9
Bipod	9
Butt group	9
Magazines	9
Remarks on cleaning	10
Action of the mechanism	10
Stoppages	11
Table of stoppages	12
3. HANDLING THE GUN	14
Drill cartridges	14
Magazine filling	15
Emptying the magazine	15
Loading	15
Sightsetting	15
Aiming	16
Firing	17
Unloading	17
Rates of fire and moving enemy	17
Use of the bipod and tripod	18
Bipod	18
Mounting the gun and tripod	18
Firing from the tripod	20
Fixed lines	20
Fixed limits	21
Use of cover	21
APPENDIX	
PROTECTION OF THE BREN L.M.G.	24

RESTRICTED

SECTION 1

CHARACTERISTICS OF THE BREN GUN

1. The light machine gun issued to ships for the use of naval landing parties is the Bren Mark 1 or 2. This pamphlet deals primarily with the Bren Mark 1, but variations occurring in the Mark 2 are mentioned.
2. The chief characteristic of the weapon is the volume of fire which may be produced from it by a small group of men. When fired from the bipod, the effective range is 600 yds; when fired from the tripod, 1,000 yds. The bren may also be fired from the shoulder but with less accuracy.
3. The gun is essentially a 'two-barrel' weapon, the second barrel as issued is not to be regarded as a 'spare', but is mated and zeroed to its parent weapon the same way as the component barrel. The two barrels should be used alternately to equalise wear and remain with the weapon throughout its life. Both barrels are stamped with the serial number of the gun and care should be taken that mated second barrels are invariably kept with their parent gun. This applies to both service and drill purpose weapons.
4. It is an air-cooled, gas-operated gun having a high rate of fire combined with a smooth action. It can be fully automatic or it may be set to fire single shot. The working parts are few in number and the mechanism is simple. The gun can be quickly stripped for cleaning, while the barrel can be readily removed and exchanged with the minimum of effort. Ammunition is fed from magazines which are capable of holding thirty rounds of .303 ammunition.
5. To avoid overheating, strain and excessive expenditure of ammunition, and at the same time to produce the necessary volume of fire as well as to maintain accuracy, it is best to fire in bursts of two or three rounds. When the target permits, single shot firing should be used to conserve ammunition. Very accurate shooting is possible when firing single shot.

6. The accuracy of the gun when firing short bursts permits only a small margin of error in aiming, or in the estimation of range or wind. Accurate observation is therefore essential. Longer bursts may be necessary to find the position of the M.P.I., but observation will be possible only in the most favourable circumstances. When a particularly favourable target is presented, or when firing from a tripod, longer bursts than two or three rounds are permissible, but the length of a burst should rarely exceed five rounds.

PARTICULARS OF EQUIPMENT

6. Weight of gun and bipod, 23 lb

Weight of spare barrel, 6 lb

Weight of tripod, 26½ lb

Traverse given by arc, 38 degrees

Elevation by elevating gear, 19 degrees

Beaten zone (area covered by fall of shot on flat ground):

500 yds with bipod 175 × 2 yds

1,000 yds with bipod 115 × 4 yds

(The Bren Mark 2 approximates to the above figures.)

SECTION 2

STRIPPING, CLEANING AND ACTION OF MECHANISM

GROUPS FOR STRIPPING

7. The gun can conveniently be divided into groups for stripping.

They are as follows:

- (a) the piston group;
- (b) the barrel group;
- (c) the butt group;
- (d) the body group and bipod;
- (e) the trigger group;
- (f) additional stripping.

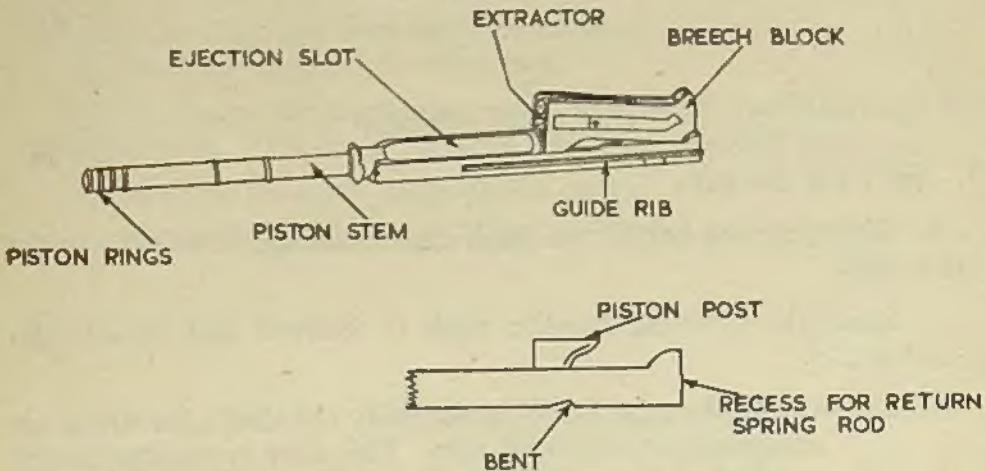


FIG. I. PISTON GROUP

PISTON GROUP

8. (a) Cock the gun and press the trigger.

(b) Push out the body locking pin and draw the butt back to its fullest extent. (In the Mark 2, draw the butt back approximately half way.)

(c) Holding the return spring rod to the left, draw the cocking handle sharply back and then push it forward.

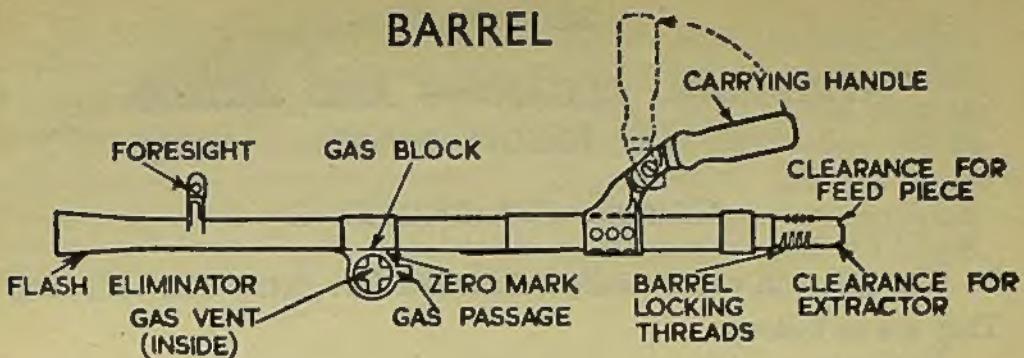
(d) Remove the piston and the breech block from the gun.

(e) Remove the breech block from the piston.

Remove the extractor stay, spring and extractor.

(g) Assemble in the reverse order.

BARREL



GAS REGULATOR

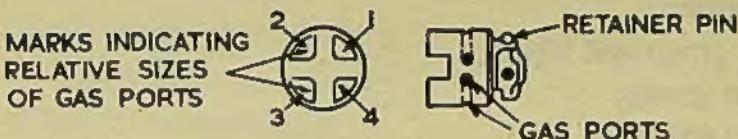


FIG. 2. BARREL GROUP

BARREL GROUP

9. (a) Cock the gun.
- (b) Disengage the barrel nut catch and rotate the barrel nut to the full extent.
- (c) Raise the carrying handle; push it forward and remove the barrel group.

NOTE.—On service, the barrel is normally changed after firing ten magazines at the rapid rate. This duty is usually carried out by No. 2 when ordered by No. 1, the latter having first removed the magazine and cocked the gun.

- (d) Push the retainer pin flush with the regulator, using the base of a round, turn the gas regulator and remove it.
- (e) Assemble in the reverse order, ensuring that the retainer pin is pushed through, that the regulator is set to the smallest hole which gives reliable functioning and that the gas cylinder locking bar engages in the recess of the gas regulator. The gas regulator may be altered to a larger or smaller hole by easing the barrel forward about an inch and turning the gas regulator with the bar on the tool or with a round. The gas regulator should be turned clockwise for more gas, anti-clockwise for less gas. Temperature conditions will affect the gas settings required. In hot climates a small aperture will be required, as the gases will expand more rapidly than in cold climates.

BUTT GROUP

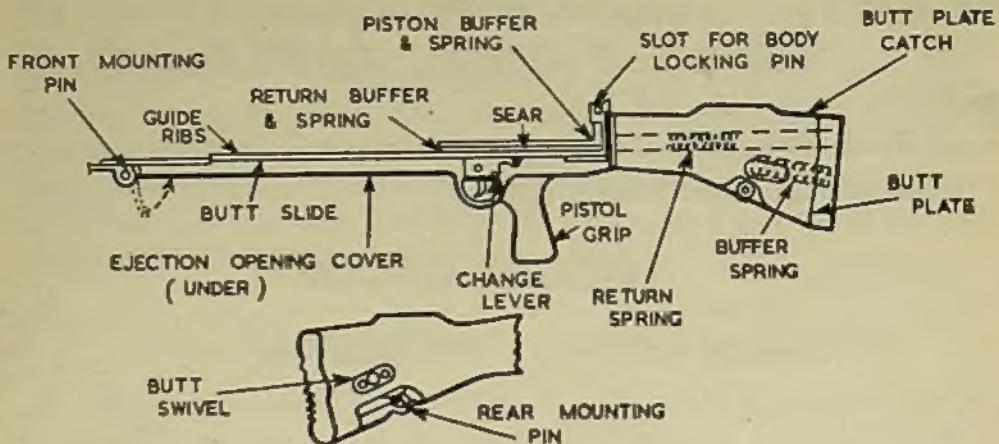


FIG. 3

BUTT GROUP

10. (a) Cock the gun and press the trigger.
- (b) Push out the body locking pin.
- (c) Disengage the barrel nut catch, and rotate the barrel nut to its fullest extent. This is not necessary with the Mark 2 Bren.
- (d) Holding the body, slide off the butt.
- (e) Assemble in the reverse order.

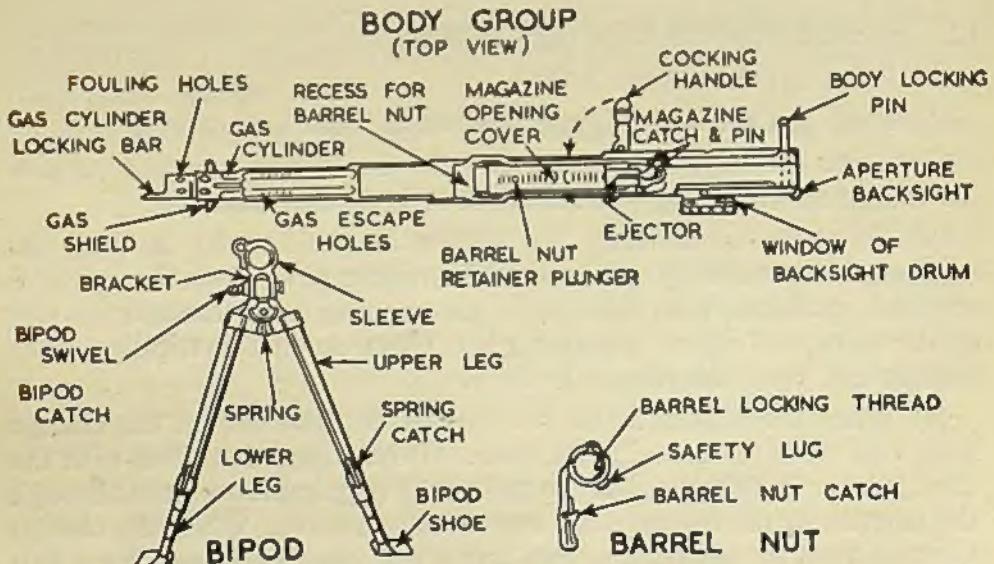


FIG. 4

BODY GROUP AND BIPOD

11. (a) Remove the piston, barrel and butt groups.
- (b) Press down the barrel nut retainer plunger and withdraw the barrel nut.
- (c) Turn the body to the left and withdraw it from bipod sleeve.
- (d) Assemble in the reverse order.

TRIGGER GROUP

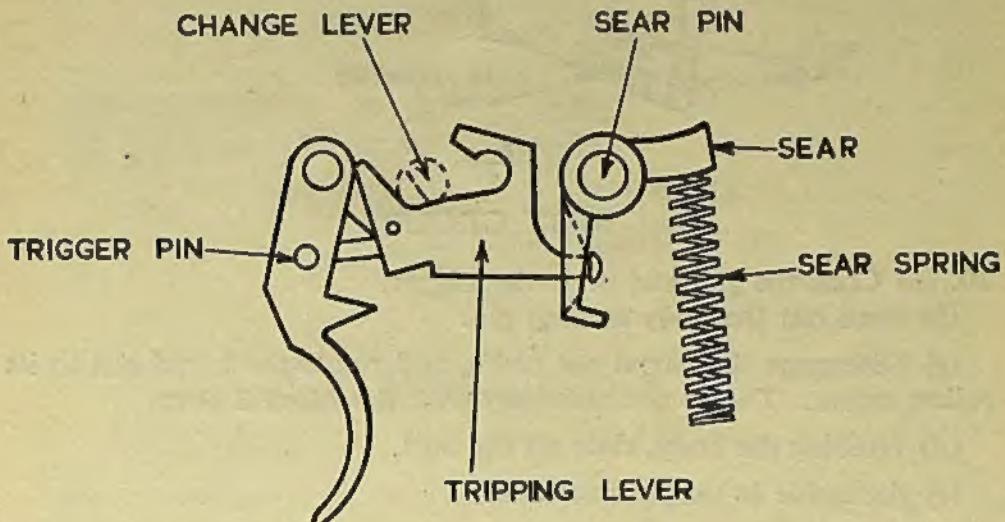


FIG. 5

TRIGGER GROUP

12. Pins are removed from right to left.
 - (a) Press out the change lever.
 - (b) Press out the sear pin and remove the sear and spring.
 - (c) Raise the tripping lever, press out the trigger pin, and remove the trigger and tripping lever. Do not strip further than this.
 - (d) To re-assemble, keep the trigger in position by holding the tripping lever vertically and replace the trigger pin. Place the sear and spring in position, with the end of the tripping lever through the slot in the sear, and insert the sear pin. Hold down the tripping lever slightly and press the change lever in.
 - (e) When the change lever is to SAFE the small flat on the change lever bolt rests on the tripping lever. If the trigger is pulled with the change lever in this position the toe of the tripping lever rides through the mortice of the sear and the sear does not move. When the change lever is put to REPETITION the large flat on the change lever bolt bears down on the tripper lever, the toe engages on the top of the

mortice of the sear. If the trigger is pressed with the change lever in this position, the piston group will go forward. In going forward, the rear end of the piston bears down on the top of the tripping lever, allowing the sear to rise under the action of the sear spring, and thereby holding the piston group when it comes to the rear. If, however, the change lever is put to AUTOMATIC, the round portion of the change lever bears down on the tripping lever and the toe now engages on the bottom of the mortice allowing the piston group to move backward and forward until the trigger is released.

ADDITIONAL STRIPPING

13. It will be necessary to take down parts of the gun which are not stripped for ordinary cleaning, when dealing with possible breakage of parts or when thoroughly cleaning after a gas attack. The parts to be stripped would then be as follows:

- (a) magazine platform;
- (b) butt plate and return spring;
- (c) firing pin;
- (d) magazine catch and ejector.

MAGAZINE PLATFORM

14. (a) Press in the stud on the bottom plate of the magazine and slide the plate off, controlling the spring as it comes out. Lift out the spring and platform.

(b) To re-assemble, replace the platform and spring. Compress the spring and slide on the bottom plate until the stud engages in the hole in the plate. A tap with the hand on the thin side of the magazine will assist it to engage.

NOTE.—To strip the Mark 2 magazine, depress the stud in the bottom plate with the nose of a bullet. Draw the bottom plate back slightly, lift off sideways and remove.

To re-assemble, slide one side of the bottom plate forward along the projection, until the detents are clear of the side edge of the magazine. Press down the bottom plate until the opposite flange engages in the necessary projection. Slide forward until the stud engages in the recess in the bottom plate.

BUTT PLATE AND RETURN SPRING

15. (a) Place the nose of a bullet on the butt plate catch close to the butt plate and tap the base of the cartridge with the hand. Remove the butt plate.

(b) Ensure the working parts are forward. Insert the combination tool so that the recesses engage in the projection on the return spring cap. Press in, turn one quarter-turn to the left, and carefully withdraw the return spring and rod.

(c) To re-assemble, insert the rod and return spring in their housing. Compress the spring by means of the cap held in the combination tool. Guide the spring with the fingers, being careful not to distort it. Press in the cap and turn to the right to lock.

(d) Engage the stud on the toe of the butt, and lift the butt plate firmly upwards and forwards, pressing the catch with the finger of the other hand.

NOTE.—To remove the return spring of the Mark 2, unscrew the large screw in the centre of the butt plate, using the combination tool or a screwdriver. This does not necessitate the removal of the butt plate.

FIRING PIN

16. (a) Press out the retainer pin, taking care that the firing pin does not jump out of the back of the breech block.

(b) To re-assemble, hold the spring in compression with the recess for the retainer pin corresponding with the retainer pin hole. Replace the retainer pin.

MAGAZINE CATCH AND EJECTOR

17. (a) Cock the gun, press the point of the magazine catch pin and withdraw to the right to a stop. Slide the magazine catch and ejector forward. To separate, squeeze the magazine catch and ejector together to compress the spring, slide the magazine catch back along the ejector and lift off. While the magazine catch and ejector are off, the magazine opening cover can be removed by sliding it to the rear.

(b) Assemble in the reverse order.

CLEANING KIT

18. A cleaning kit is provided with each gun and consists of the following:

single pull-through with gauze	cylinder cleaning mop
double pull-through with gauze	combination tool
spare gauzes	oil container
cylinder cleaning rod	flannelette
cylinder cleaning wire brush	greases and oils (all details will be found in B.R. 292).

The gun must be completely stripped for cleaning.

BARREL GROUP

19. The gas block, gas regulator, and the inside of the flash eliminator should be cleaned and wiped with an oily rag. Remove any barrel fouling with the wire gauze. To clean the barrel group, pull through with clean flannelette (4×2) followed by a piece of well-oiled flannellette, to oil the barrel. For firing, the barrel group should be completely dry.

BODY GROUP

20. To remove fouling from the cylinder, use the wire brush. This brush should be oiled and inserted, handle first, from the breech end. Free working is facilitated by turning the rod clockwise. With the nose of a bullet, remove any dirt or fouling that may be in the large holes at the end of the cylinder. Then dry and oil. Dry the cylinder by attaching the mop covered with 4×2 to the cylinder cleaning rod. To oil the cylinder, an oily piece of 4×2 should be attached to the pull-through.

Remaining parts should be cleaned and wiped with an oily rag.

The cylinder should be completely dry before firing.

PISTON GROUP

21. To remove fouling, clean and wipe with an oily rag. Special attention should be paid to the head of the piston, and piston rings, all fouling being removed. Before firing, these parts should be dried and the working surfaces of the breech block and piston extension lubricated. For full details of lubrication reference must be made to B.R. 292, which has a complete and current chart of the lubricants required.

BIPOD

22. To remove fouling, clean the sleeve in the same way as the cylinder. Clean and wipe remaining parts with an oily rag. The bipod sleeve should be dried before firing.

BUTT GROUP

23. Clean and wipe with an oily rag. The return spring should be oiled occasionally. This can be done by depressing the return spring rod and pouring a little oil into the recess.

MAGAZINES

24. Clean and wipe with an oily rag.

REMARKS ON CLEANING

25. The following points are important:

- (a) when not in use, the gun should be well oiled;
- (b) all gas-affected parts should, if possible, be dried before firing.
- (c) during intervals of firing, the working parts should be kept lubricated. The barrel should be allowed to cool as opportunity offers.

It will be found that during firing the gun will become stiff in the bipod sleeve. To ease this, rotate the gun in the sleeve;

- (d) the gun should be thoroughly cleaned after firing;
- (e) after a gas attack, complete stripping and decontamination, as taught for the rifle, will be necessary.

ACTION OF THE MECHANISM

Backward action

26. Some of the gas following the bullet passes through the gas vent and gas regulator into the gas cylinder. This gas forces the piston to the rear and compresses the return spring until the piston is stopped by the piston buffer. The empty case, being gripped by the extractor, is carried to the rear on the face of the breech block until its base meets the ejector. The case is then ejected downwards through the ejection slot in the piston.

Forward action

27. The piston, having been stopped by the piston buffer, is forced forward by the return spring, carrying the breech block with it. The feed piece meets the base of the first round in the magazine and forces it forward into the chamber, the extractor closing over the rim.

The piston post in its final move forward drives the firing pin against the cap of the cartridge, thus firing the round.

Trigger action

28. With the change lever at "A", pressure on the trigger disengages the sear from the bent on the piston, and the piston is allowed to go forward. As long as the trigger is pressed, the gun will continue to fire, but, if the trigger is released, the bent will engage with the sear the next time the piston comes to the rear, stopping its forward movement.

With the change lever at "R" the trigger must be pressed each time a shot is to be fired, as the piston is held back after each round. This is caused by the rear part of the piston bearing on the tripping lever during the forward action, making the sear rise.

With the change lever at "S", the trigger is disengaged from the sear, and the gun cannot be fired.

If pressure on the trigger is maintained while the change lever is altered from SAFE to AUTOMATIC and then released and the trigger pressed again, the gun will not fire. The change lever, therefore, should not be altered when the trigger is pressed.

Empty magazines

29. If the magazine is empty, the feed piece on the breech block meets the rear of the magazine platform instead of meeting the base of a round and the action cannot go forward. On releasing the trigger and removing the magazine, the piston and breech block go forward until the bent on the piston meets the sear. Thus the action is cocked in readiness for another magazine to be placed on the gun and for firing to continue.

NOTE.—The Mark 1 cannot be loaded or fired unless the barrel nut catch is correctly engaged. This is not so with the Mark 2.

STOPPAGES

30. Under normal conditions and with a well balanced and maintained gun, stoppages, other than those due to an empty magazine, will rarely occur. When they do occur they can be effectively and quickly dealt with by following the instructions contained in the table below.

Stoppages are usually caused by defective ammunition, so it is important, when filling magazines, that each cartridge should be carefully inspected.

Immediate action

31. The first duty of No. 1 when a stoppage occurs is to take "immediate action". If the gun still fails to fire, then he must act as shown in the table of stoppages.

Immediate action if the gun fails to fire or stops firing is as follows:

- (a) cock the gun. Change the magazine, aim and fire;
- (b) if the gun fires one or two rounds and stops again, No. 1 must cock the gun and remove the magazine. Disconnect the barrel and adjust the gas regulator to the next largest hole, replace the barrel, replace the magazine and fire.

TABLE OF STOPPAGES

32.

CAUSE	REMEDY	REMARKS
(a) <i>Empty magazine</i>	Recock gun — release trigger — remove magazine — place on new magazine — continue firing.	1st I.A.
(b) <i>Badly filled magazine</i> . Rim of cartridges overlapping.	Recock gun — remove magazine and any jammed rounds — place on new magazine and fire.	1st I.A.
(c) <i>Misfire</i> . Faulty cartridge or damaged firing pin.	Recock to eject faulty round — continue firing. If frequent, change the breech block, and when opportunity occurs change the firing pin.	1st I.A.
(d) <i>Faulty ejection</i> .	Recock — remove empty case from body and continue firing.	1st I.A.
(e) <i>Hard extraction</i> . Most of the gas is used up in extraction, leaving insufficient to bring the breech fully to the rear.	Recock — fire again. If frequent, shift magazines.	1st I.A.
(f) <i>Insufficient gas</i> . Discovered after firing one or two rounds, after which gun stops firing. In this case breech block does not recoil far enough to engage behind next round.	Cock gun — remove magazine, press trigger, cock gun. No. 1 disconnects barrel and adjusts gas regulator to the next largest hole — replace barrel — place magazine on and fire.	IMMEDIATE ACTION care must be taken not to start with too much gas otherwise hammering of working parts occurs. 2nd I.A.

TABLE OF STOPPAGES—*continued*

CAUSE	REMEDY	REMARKS
(g) <i>Obstruction caused by mechanical breakdown.</i> May be caused by fracture of material, or, more likely, faulty setting up after stripping.	Replace with spare part if available, or strip and re-assemble correctly.	
(h) <i>Separated case in chamber.</i>	Remove by using clearing plug — insert clearing plug in chamber — press the trigger — cock gun, removing clearing plug and separated portion — replace magazine and fire.	



FIG. 8. CORRECT AIM

AIMING

38. Put change lever to "A" or "R", raise the butt and place it firmly into the shoulder with the cheek resting lightly on it. Place the finger on trigger. Align the tip of the foresight with the centre of the target keeping the aim central in the aperture and the sights upright. The bipod legs can be adjusted for height, except in the case of the Mark 2 bipod.

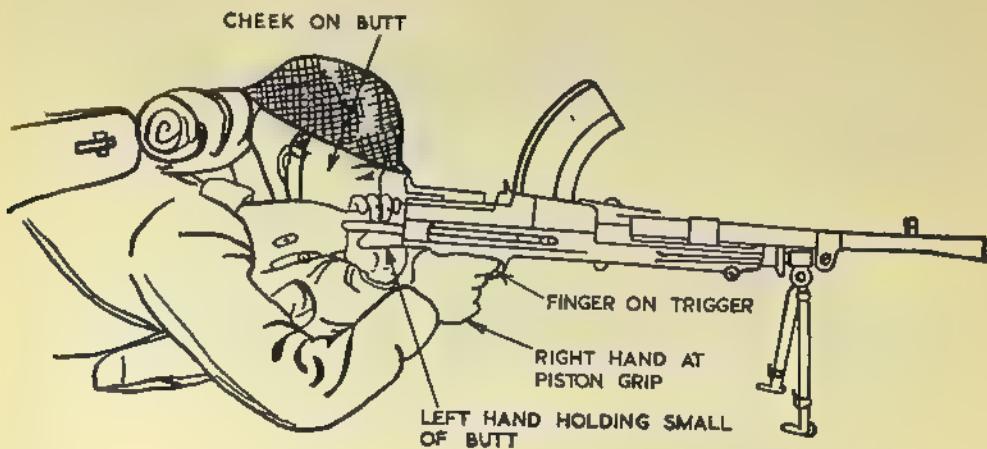


FIG. 8A. RIGHT SIDE VIEW

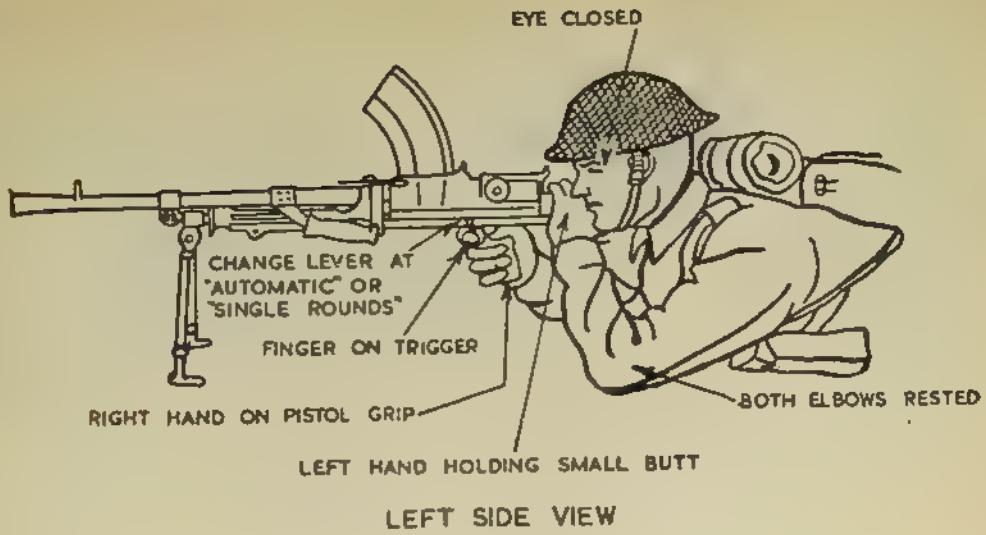


FIG. 9. HOLDING AND AIMING

FIRING

39. The trigger has only one pressure but the pull-off is shorter for automatic than for single shot. The aim should be corrected using only the maximum head movement. The same rules for aiming off for wind as used with the rifle must be applied here.

UNLOADING

40. Press the magazine catch with the palm of the hand and remove the magazine. Put the change lever to automatic or repetition. Press the trigger, cock the gun and press the trigger again. Close the magazine and ejection opening covers. Lower the sights and report "Gun clear".

RATES OF FIRE AND MOVING ENEMY

41. SLOW FIRE. About one magazine per minute.

SINGLE SHOT. Up to one magazine per minute.

RAPID FIRE. Three magazines per minute. Bursts of normal length but minimum intervals between them, to allow for observation and correction.

MOVING ENEMY. It is not possible to swing with the bren when it is mounted on the bipod, and therefore a point ahead of the enemy should be chosen and fire opened just before the enemy closes to the estimated deflection. This must be quickly repeated using bursts of 8-10 rounds.

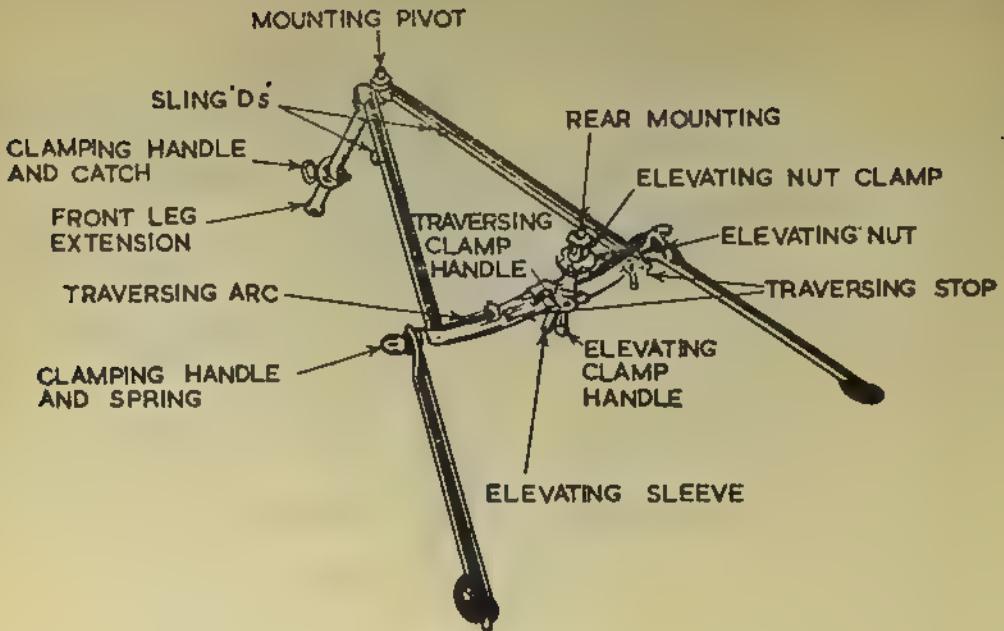


FIG. 10

USE OF THE BIPOD AND TRIPOD

General

42. Normally the bipod is used with the bren because of the great flexibility with which the bren can engage targets in different directions. The exception to this is when the gun is required to fire on a fixed line, or within the limits of a fixed arc. In these cases the tripod is used because of the increased accuracy which can be obtained.

BIPOD

43. There is nothing difficult about handling the bipod, and if full use is made of the telescopic legs to keep the gun upright on sloping ground it will be found to be a most useful gun rest. The use of the tripod, however, requires some consideration.

MOUNTING THE GUN AND TRIPOD

44. (a) Lay the tripod on the ground with the front leg underneath. Kneel or lie down according to the nature of the cover. Loosen the rear leg clamping handles, swing the legs back, and clamp them approximately in line with the main frame. Loosen the front leg clamping handle, swing the leg forward and clamp it. The legs should then be adjusted to suit the particular type of cover being used, remembering that when the tripod is mounted, the traversing arc must be horizontal. With experience it will be possible to mount the tripod,

without unnecessary loss of time, to suit the type of cover being used. Loosen the traversing stop, move it to the end of the arc and clamp. Loosen the traversing clamp handle, move the elevating gear to the centre of the arc and clamp. Loosen the elevating clamp handle, slide the sleeve half-way forward and clamp. Raise to the vertical position.

(b) No. 1 disengages the front and rear mounting pins. He places the front mounting pin housing on the mounting pivot, replaces the mounting pin, and attaches the butt to the rear mounting with the rear mounting pin.

(c) Both numbers slide the gun and tripod cautiously forward. Obtain the rough direction by moving the rear legs. Make any adjustment necessary. Ensure that the legs are firm in the ground (when possible by stamping in) and that all clamps are tight. Use sandbags or sods of earth to ensure tripod does not move.

Dismounting should be done under good cover, and in the reverse order.

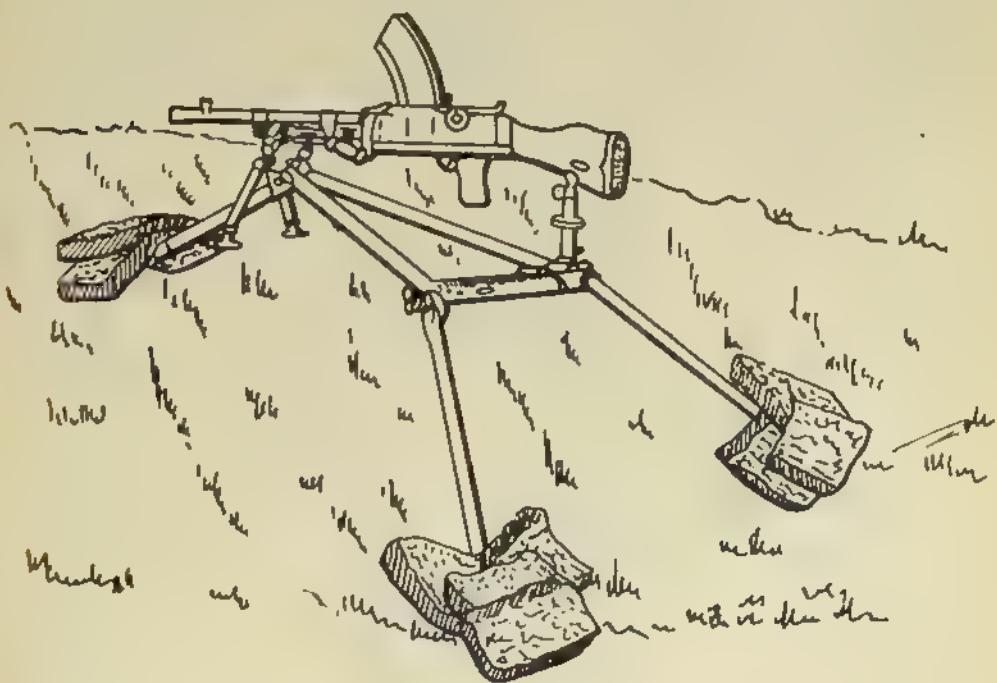


FIG. 11

45. Figure 11 shows gun and tripod mounted ready to fire with:

- (a) traversing arc horizontal;
- (b) no undue exposure;
- (c) sandbags or sods on legs;
- (d) legs adjusted to suit cover.

FIRING FROM THE TRIPOD

46. (a) When the range is given, set the sights. When the target is indicated, aim the gun accurately with the aid of the traversing slide and elevating gear. Clamp both, and the elevating clamp nut, when aim is accurate. The eye should be in the correct aiming position. Adopt any convenient firing position behind the gun with a minimum of exposure. (The butt need not be in the shoulder.)

(b) When firing between fixed limits, aim should be laid at each end of the target. Having aimed at one end of the target, the traversing stop should be clamped in position before moving the elevating gear to aim at the opposite limit. When firing between fixed limits, irregular traversing should be employed.

NOTE.—On occasions it will be necessary to mount the tripod with the traversing arc on a slant in order to make the fire from the gun conform to the slope of the ground.

FIXED LINES

47. Firing on a fixed line implies that certain measures and preparations have been carried out during daylight, so that when darkness comes, fog descends, or the enemy uses smoke, elevation and direction of the gun can still be maintained and fire can be brought down on a previously selected line on the ground. The tripod must be used for this purpose.

48. The following points must be appreciated:

(a) normally, forward position brens do not fire on fixed lines. Once a section commander has been told to fire on a fixed line, which will be part of the fire plan as a whole, he should not remove his gun from the position in which it is clamped, but human nature being what it is, that is too much to ask if the bren position is being assaulted. In order to obtain the maximum benefit from the fire, all fixed line tasks should be enfilade ones. There will, of course, be exceptions to this, such as a bren firing on a fixed line down a cutting or sunken road leading into the front;

(b) clear instructions must be given to section commanders allotted fixed line tasks as to the time the gun is to be available for the task. On occasions, fixed line tasks may be allotted in daylight, but normally they will be required at night or in low visibility;

(c) the section commander must understand the signal calling for fire and must know the rate and amount of fire he is to employ when ordered. This will be laid down by the landing party commanding officer. For the fire plan to be effective, fire must be instantaneous on receipt of a fire signal;

(d) the fixed line must not be within five degrees of our own troops;

(e) a normal range for fixed line firing is 600 yds;

(f) the gun should be laid at the far end of the fixed line, that is to say, at a point on the fixed line *opposite* the far end of the locality or area to be protected. The sights must be set for this range. When this is done, it ensures that the whole of the dangerous zone is used. The conformation of the ground and the range at which the fixed line is being layed may render this impossible;

(g) once the tripod has been firmly clamped in position, the gun can be removed until it is required for fixed line firing. Replacement should be made before dusk to enable the fixed line to be re-checked;

(h) every man in the section should know the reading on the sights and on the traversing arc, and the point at which the gun is aimed.

FIXED LIMITS

49. Guns in the foremost positions can often be suitably employed by firing within fixed limits of an arc to cover narrow approaches leading into their position in darkness, fog, etc. They may also be used for their *own* protection by being layed to traverse along an obstacle; in this case the aim should be low. Guns sited for coast and beach protection should normally fire within fixed limits, a series of interlocking arcs of fire in enfilade being provided. Preliminary measures are still necessary in daylight, as the stop positions for each end of the arc must be found, and the tripod altered to agree with the conformation of the ground.

USE OF COVER

50. Figures 12 to 18 indicate how the gun and bipod should be used in order to take full advantage of available cover.

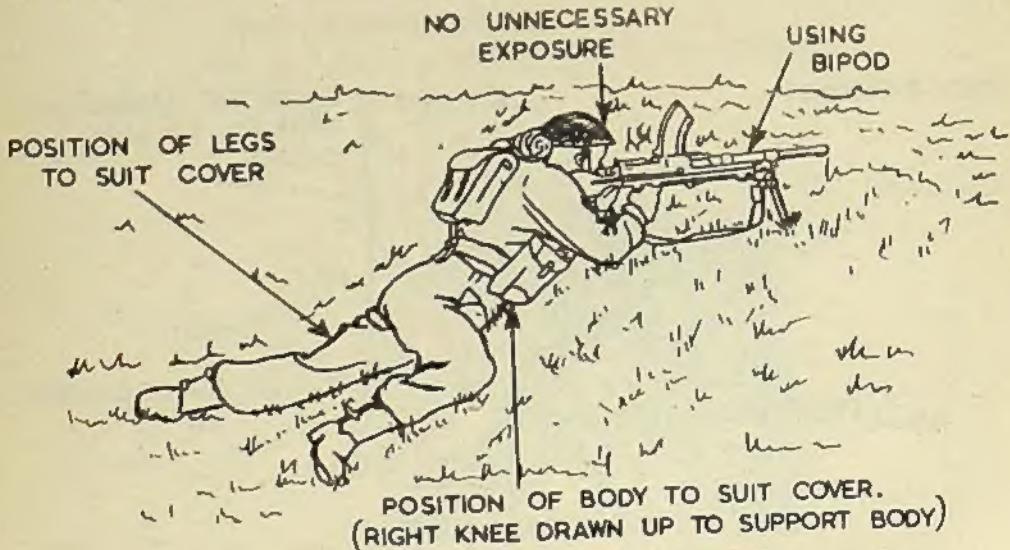


FIG. 12. GUN MOUNTED USING BIPOD

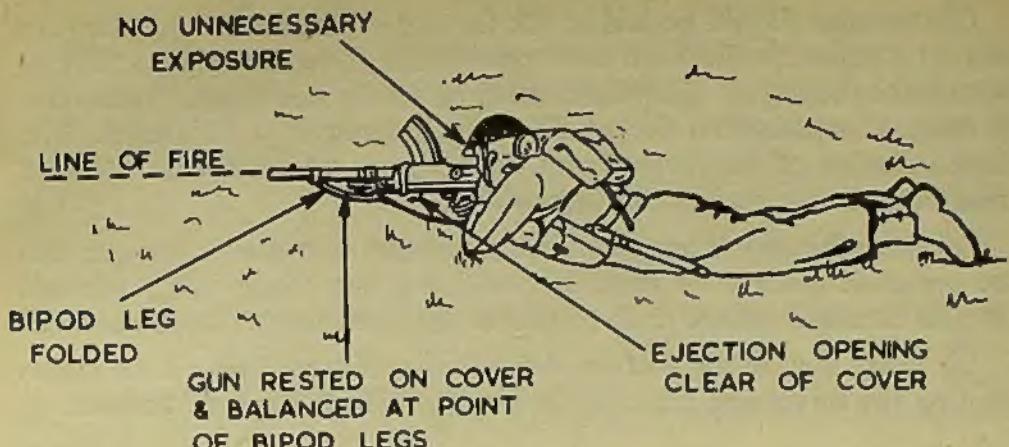


FIG. 13. GUN MOUNTED WITHOUT USE OF BIPOD

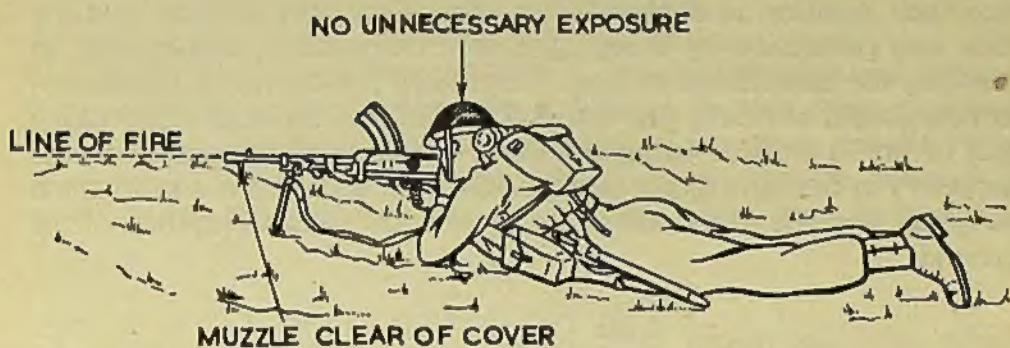


FIG. 14. GUN MOUNTED USING A FOLD IN THE GROUND

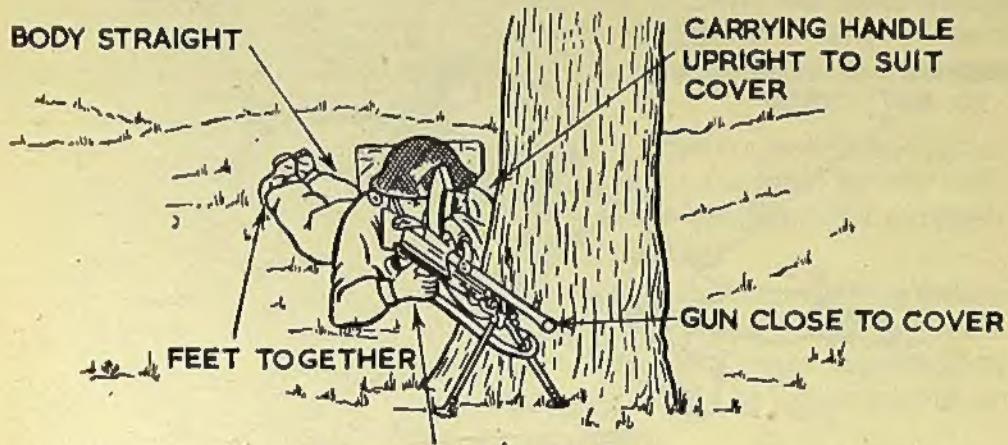


FIG. 15. GUN MOUNTED ROUND ISOLATED COVER

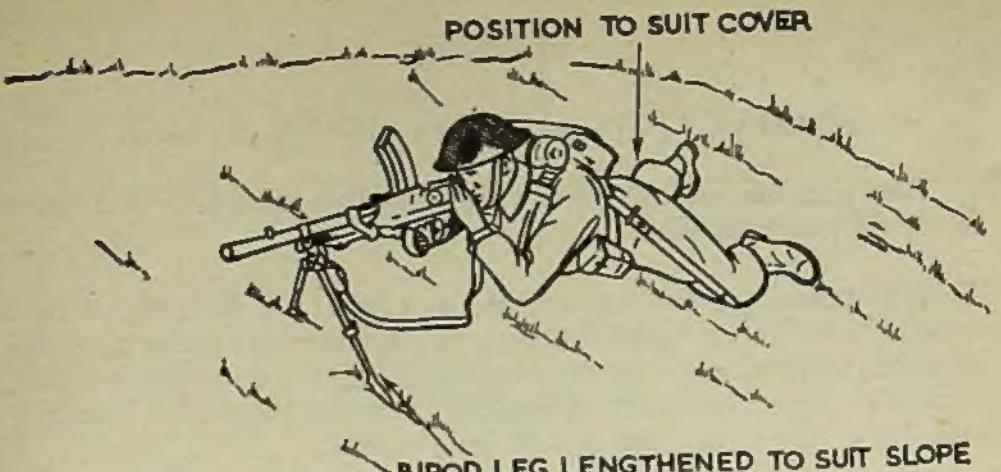


FIG. 16. GUN MOUNTED ON THE SIDE OF A SLOPE
ELBOW REST WIDENED TO TAKE BIPOD



FIG. 17. USING A BIPOD FROM A SLIT TRENCH

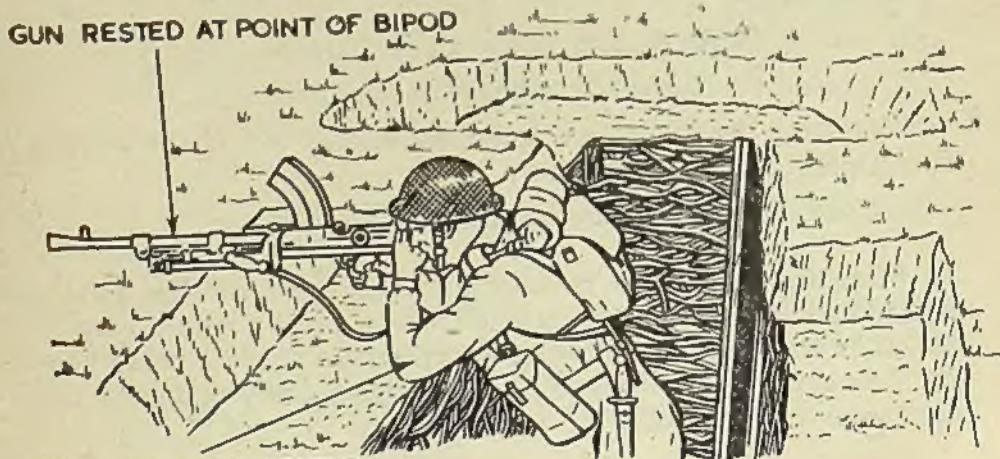


FIG. 18. WITHOUT USE OF THE BIPOD FROM A SLIT TRENCH]

APPENDIX

PROTECTION OF THE BREN L.M.G.

1. Bren guns are liable to fail if carried through heavy surf on a sandy beach without protection.
2. It is appreciated that a proportion of L.M.G.s of early flights must remain in action up to the moment of disembarking. For guns not required in this phase of operations, and for guns of subsequent flights, to which a 30-second delay on landing to remove protection is acceptable, the following method should be adopted:

(a) prepare the guns for firing in the normal way. (See B.R. 292 for details of the oils and greases to be used.) (No grease is to be put on the face and top of the breech block.) Gas regulators should be at No. 4 port;

(b) seal all gas escape holes with adhesive tape;

(c) plug the muzzle with flannelette;

(d) close the ejection and magazine opening covers, and using 6 or 7 yds of flannelette, bind the gun from the body locking pin forward to the gas-block, inclusive, but leaving the carrying handle free and the bipod legs down. The object of this binding is to filter out the fine sand suspended in the water, not to attempt to keep the gun dry;

If delay is not acceptable

3. All openings should be closed and sealed with an approved service grease, muzzle plugged with flannelette and secured to the foresight, and guns dry internally. This method will give a high percentage of satisfactory gun functioning.

4. On landing:

- (a) remove the flannelette plug from the muzzle;
- (b) unwind the flannelette bandage and discard;
- (c) pressing the trigger, work the mechanism to and fro sharply by hand at least half a dozen times;
- (d) place the magazine on the gun and carry on;

5. Magazines carried in pouches may pick up some fine sand suspended in the water. To give as much protection as possible, magazines should be wrapped in flannelette, special attention being paid to covering the mouth of the magazine. When opportunity offers, all magazines should be thoroughly cleaned.

RESTRICTED